

10/618,320 G proteins, polynucleotide encoding the same and utilization thereof

Application Data Transaction History Image File Wrapper Foreign Priority Published Documents Publication Dates Address & Attorney/Agent Supplemental Content

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1	333667	60.638	
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1	333675	60.638	
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10/618,320

G proteins, polynucleotide encoding the same and utilization the

GenCore version 5.1.7

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OM protein - protein search, using sw model

Run on: March 2, 2006, 19:29:36 ; Search time 142.364 Seconds
 (without alignments)
 1413.528 Million cell updates/sec

Title: US-10-618-320A-1
 Perfect score: 2400
 Sequence: 1 MGLCYSLRPLLFGGPGDDPC.....VFNDICRDIIQRMHLKQYELL 458

Scoring table: BLOSUM62
 Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
 Maximum Match 100%
 Listing first 45 summaries

Database : A_Geneseq_21:*
 1: geneseqp1980s:*
 2: geneseqp1990s:*
 3: geneseqp2000s:*
 4: geneseqp2001s:*
 5: geneseqp2002s:*
 6: geneseqp2003as:*
 7: geneseqp2003bs:*
 8: geneseqp2004s:*
 9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a
 score greater than or equal to the score of the result being printed,
 and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2400	100.0	458	8	ADG74722	Adg74722 Human G-p
2	2400	100.0	458	9	AEA17292	Aea17292 Human XLG
3	2124	88.5	448	8	ADG74746	Adg74746 Mouse G-p
4	2113	88.0	450	8	ADG74747	Adg74747 Rat G-pro
5	1819	75.8	381	5	ABB09272	Abb09272 G protein
6	1819	75.8	381	7	ADC09607	Adc09607 Human G-p
7	1819	75.8	381	7	ADE61907	Ade61907 Human Pro
8	1819	75.8	381	8	ADU60726	Adu60726 Human G-p
9	1819	75.8	381	9	ADX26261	Adx26261 Novel cel
10	1819	75.8	381	9	AEA17294	Aea17294 Human Gol
11						

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description

1	2400	100.0	458	8	ADG74722	Adg74722	Human	G-p					
2	2400	100.0	458	9	AEA17292	Aea17292	Human	XLG					
3	2124	88.5	448	8	ADG74746	Adg74746	Mouse	G-p					
4	2113	88.0	450	8	ADG74747	Adg74747	Rat	G-pro					
5	1819	75.8	381	5	ABB09272	Abb092	1811	75.5	381	7	A		
12	1559	65.0	756	5	ABG60299	Abg60299	Lymphona						
13	1559	65.0	756	6	ABP97657	Abp97657	Amino aci						
14	1559	65.0	909	8	ADQ26060	Adq26060	Guanine n						
15	1559	65.0	909	8	ABM82265	Abm82265	Tumour-as						
16	1559	65.0	909	9	ADX06936	Adx06936	Cyclin-de						
17	1540	64.2	379	4	AAB99060	Aab99060	Human	G-p					
18	1540	64.2	379	5	ABB09269	Abb09269	G protein						
19	1540	64.2	379	7	ADC09604	Adc09604	Human	G-p					
20	1540	64.2	379	7	ADJ68299	Adj68299	Human	hea					
21	1540	64.2	379	8	ADU60723	Adu60723	Human	G-p					
22	1537	64.0	720	6	ABP56694	Abp56694	GCR1:Gs f						
23	1536.5	64.0	755	8	ADM79379	Adm79379	Mouse	lym					
24	1529.5	63.7	380	3	AAB23382	Aab23382	Human	G-a					
25	1529.5	63.7	380	4	AAB99058	Aab99058	Human	G-p					
26	1529.5	63.7	380	4	AAB99061	Aab99061	Human	G-p					
27	1529.5	63.7	380	5	ABB09270	Abb09270	G protein						
28	1529.5	63.7	380	7	ADC09605	Adc09605	Human	G-p					
29	1529.5	63.7	380	7	ADP70778	Adp	Adx06936	Cyclin-de					
17	1540	64.2	379	4	AAB99060	Aab99060	Human	G-p					
18	1540	64.2	379	5	ABB09269	Abb09269	G protein						
19	1540	64.2	379	7	ADC09604	Adc09604	Human	G-p					
20	1540	64.2	379	7	ADJ68299	Adj68299	Human	hea					
21	1540	64.2	379	8	ADU60723	Adu60723	Human	G-p					
22	1537	64.0	720	6	ABP56694	Abp56694	GCR1:Gs f						
23	1536.5	64.0	755	8	ADM79379	Adm79379	Mouse	lym					
24	1529.5	70778	Minicell										
30	1529.5	63.7	380	8	ADQ26061	Adq26061	Guanine n						
31	1529.5	63.7	380	8	ABM82267	Abm82267	Tumour-as						
32	1529.5	63.7	380	8	ADU60724	Adu60724	Human	G-p					
33	1526.5	63.6	926	4	AAU04387	Aau04387	GPCR-Gs f						
34	1526.5	63.6	926	7	ADL96550	Adl96550	G protein						
35	1526.5	63.6	926	9	ADW44723	Adw44723	Human	RUP					
36	1526.5	63.6	926	9	AEB20907	Aeb20907	Human	RUP					
37	1525.5	63.6	394	2	AAR94559	Aar94559	Human	Gs					
38	1525.5	63.6	394	5	ABB09267	Abb09267	G protein						
39	1525.5	63.6	394	5	ABG60304	Abg60304	Lymphona						
40	1525.5	63.6	394	6	ABP97662	Abp97662	Amino aci						
41	1525.5	63.6	394	7	ABR82636	Abr82636	C. elegan						
42	1525.5	63.6	394	7	ADC09602	Adc09602	Human	G-p					
43	1525.5	63.6	394	7	ADP70779	Adp70779	Minicell						
44	1525.5	63.6	394	8	ADQ26059	Adq26059	Guanine n						
45	1525.5	63.6	394	8	ABM82266	Abm82266	Tumour-as						

ALIGNMENTS

RESULT 1

ADG74722

ID ADG74722 standard; protein; 458 AA.

XX

AC ADG74722;

XX

DT 22-APR-2004 (first entry)

XX

DE Human G-protein Gm1 amino acid sequence.

XX

KW G protein; Gm1; G protein-coupled receptor mediated signal transduction;

KW GTP binding site; GTPase site; G protein alpha subunit;

KW signal transduction; G-protein-coupled receptor.

XX

SQ Sequence 458 AA:

Query Match 100.0%; Score 2400; DB 9; Length 458
protein coupled receptors (GPCR) that the N-terminus of the XLGolf protein is altered compared to Golf with a different exon 1. Specifically, it refers to contacting the GPCR with a test compound, and determining GPCR activity, where a change in activity indicates that the compound is a modulator thereof. The present invention describes the GPCR as a Gs coupled GPCR that is selected from dopamine receptor D1, adenosine A2a receptor, and adrenergic beta-2 receptor. Accordingly, the composition and methods are useful for identifying modulators of GPCR activity, as well as for diagnosing or treating schizophrenia and other psychiatric disorders. Furthermore, the pharmaceutical compositions derived thereof exhibit neuroleptic activity and can be used for gene therapy purposes. This polypeptide sequence is th:

Best Local Similarity 100.0%; Pred. No. 6.3e-200;

Matches 458; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	MGLCYSLRPLLFGGPGDDPCAASEPPVEDAQ	PAPAPALAPVRAAADTARTLLPRGGE	GS	60
Db	1	MGLCYSLRPLLFGGPGDDPCAASEPPVEDAQ	PAPAPALAPVRAAADTARTLLPRGGE	GS	60
Qy	61	PACARPKADKPKEKRQ	TEQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRD	LQQTH	120
Db	61	PACARPKADKPKEKRQ	TEQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRD	LQQTH	120
Qy	121	RLLLLGAGESGKSTIVKQMRILHVGNGFNPEEKKQKILDIRKNVKDAIVTIVSAMSTIIPP			180
Db	121	RLLLLGAGESGKSTIVKQMRILHVGNGFNPEEKKQKILDIRKNVKDAIVTIVSAMSTIIPP			180
Qy	181	VPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDCAQ			240
Db	181	VPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDCAQ			240
Qy	241	YFLERIDSVSLVDYTPTDQDLLRCRVLTS	GIFETRQVDKVNFMFMDVGGQRDERRKWIQ		300
Db	241	YFLERIDSVSLVDYTPTDQDLLRCRVLTS	GIFETRQVDKVNFMFMDVGGQRDERRKWIQ		300
Qy	301	CFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDLFESIWN	NRWLRTISIIFLNKQDM		360
KRDLQQTH	120				
Db	61	PACARPKADKPKEKRQ	TEQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRD	LQQTH	120
Qy	121	RLLLLGAGESGKSTIVKQMRILHVGNGFNPEEKKQKILDIRKNVKDAIVTIVSAMSTIIPP			180
Db	121	RLLLLGAGESGKSTIVKQMRILHVGNGFNPEEKKQKILDIRKNVKDAIVTIVSAMSTIIPP			180
Qy	181	VPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDCAQ			240
Db	181	VPLANPENQFRSDYIKSI	Db 301 CFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDLFESIWN	NRWL	
Qy	361	LAEKVLGKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGDGK			420
Db	361	LAEKVLGKSKIEDYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFLRISTATGDGK			420
Qy	421	HYCYPHFTCAVDTENIRRVFNDCRDI	IORMHLKQYELL		458
Db	421	HYCYPHFTCAVDTENIRRVFNDCRDI	IORMHLKQYELL		458

RESULT 3

ADG74746

ID ADG74746 standard; protein; 448 AA.

XX

AC ADG74746;

XX
DT 22-APR-2004 (first entry)
XX
DE Mouse G-protein Gm1 amino acid sequence.
XX
KW G protein; Gm1; G protein-coupled receptor mediated signal transduction;
KW GTP binding site; GTPase site; G protein alpha subunit;
KW signal transduction; G-protein-coupled receptor; mouse; murine.
XX
OS Mus musculus.
XX
PN EP1382613-A1.
XX
PD 21-JAN-2004.
XX
PF 09-JUL-2003; 2003EP-00015519.
XX
PR 16-JUL-2002; 2002JP-00206841.
PR 19-DEC-2002; 2002JP-00367778.
PR 31-MAR-2003; 2003JP-00095955.
XX
PA (SUMO) SUMITOMO CHEM CO LTD.
XX
PI Takahashi Y, Matsumoto Y, Oeda K;
XX
DR WPI; 2004-111483/12.
DR N-PSDB; ADG74748.
XX
PT New protein useful as a therapeutic or prophylactic agent against a
PT disease caused by an abnormality in a G-protein coupled receptor mediated
PT signal transduction.
XX
PS Claim 1; SEQ ID NO 25; 85pp; English.
XX
CC This invention relates to a novel G protein (Gm1). The protein is
CC involved in a G protein-coupled receptor mediated signal transduction.
CC The protein of the invention has a sequence with a high homology with a
CC GTP binding site and a GTPase site conserved among G protein alpha
CC subunits. The protein, the DNA sequence which encodes it and an antibody
CC specifically recognising the protein of the invention may be useful as a
CC therapeutic or prophylactic agent against a disease caused by an
CC abnormality in a G-protein coupled receptor mediated signal transduction.
CC The invention may also be useful for screening for a substance capable of
CC regulating a signal transduction mediated by a G-protein-coupled receptor
CC and a protein. The present sequence is that of the mouse Gm1 protein
CC which is related to the human Gm1 protein of the invention.
XX
SQ Sequence 448 AA;

Query Match 88.5%; Score 2124; DB 8; Length 448;
Best Local Similarity 91.0%; Pred. No. 6.7e-176;
Matches 417; Conservative 6; Mismatches 25; Indels 10; Gaps 3;

Qy	1	MGLCYSLRPLLFGGPGDDPCAASEPVEDAQAPAPALAPVRAAARDTARTLLPRGGEGS	60
		: :	
Db	1	MGLCYSLRPLLFGSPEDTPCAASEPCAEDAQPSPAAPAPASIPAPA--PVGTLRLRRGGGRI	58
Qy	61	PACARPKADKPKEKRQRTEQLSAEEREAAKEREAVKEARKVSRGIDRMRLRDQKRDQQTH	120
		: : : :	
Db	59	VANARPPGE--LQSRRRQEQLRAEEREA-----KEARKVSRGIDRMRLREQKRDQQTH	110
Qy	121	RLLLLGAGESGKSTIVKQMRLHVNNGFNPEKKQKILDIRKNVKDAIVTIVSAMSTIIPP	180
Db	111	RLLLLGAGESGKSTIVKQMRLHVNNGFNPEKKQKILDIRKNVKDAIVTIVSAMSTIIPP	170
Qy	181	VPLANPENQFRSDYIKSIAPITDFEYSOEFFDHVKKLWDDEGVKACFERSNEYOLIDCAO	240

```

Db      171  VPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDDEGVKACFERSNEYQLIDCAQ 230
Qy      241  YFLERIDSVSLVDYTPTDQDLLRCRVLTSGIFETRQVDKVNFMFQVGGQDERRKWIQ 300
Db      231  YFLERIDSVSLVDYTPTDQDLLRCRVLTSGIFETRQVDKVNFMFQVGGQDERRKWIQ 290
Qy      301  CFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIILFLNKQDM 360
Db      291  CFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDLFESIWNNRWLRTISIILFLNKQDM 350
Qy      361  LAEKVLAGKSKIETYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFRLISTATGDGK 420
Db      351  LAEKVLAGKSKIETYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFRLISTATGDGK 410
Qy      421  HCYPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 458
Db      411  HCYPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL 448

```

RESULT 4

ADG74747

ID ADG74747 standard; protein; 450 AA.

XX

AC ADG74747;

XX

DT 22-APR-2004 (first entry)

XX

DE Rat G-protein Gm1 amino acid sequence.

XX

KW G protein; Gm1; G protein-coupled receptor mediated signal transduction;

KW GTP binding site; GTPase site; G protein alpha subunit;

KW signal transduction; G-protein-coupled receptor; rat.

XX

OS Rattus norvegicus.

XX

PN EP1382613-A1.

XX

PD 21-JAN-2004.

XX

PF 09-JUL-2003; 2003EP-00015519.

XX

PR 16-JUL-2002; 2002JP-00206841.

PR 19-DEC-2002; 2002JP-00367778.

PR 31-MAR-2003; 2003JP-00095955.

XX

PA (SUMO) SUMITOMO CHEM CO LTD.

XX

PI Takahashi Y, Matsumoto Y, Oeda K;

XX

DR WPI; 2004-111483/12.

DR N-PSDB; ADG74749.

XX

PT New protein useful as a therapeutic or prophylactic agent against a

PT disease caused by an abnormality in a G-protein coupled receptor mediated

PT signal transduction.

XX

PS Claim 1; SEQ ID NO 26; 85pp; English.

XX

CC This invention relates to a novel G protein (Gm1). The protein is

CC involved in a G protein-coupled receptor mediated signal transduction.

CC The protein of the invention has a sequence with a high homology with a

CC GTP binding site and a GTPase site conserved among G protein alpha

CC subunits. The protein, the DNA sequence which encodes it and an antibody

CC specifically recognising the protein of the invention may be useful as a

CC therapeutic or prophylactic agent against a disease caused by an

CC abnormality in a G-protein coupled receptor mediated signal transduction.
CC The invention may also be useful for screening for a substance capable of
CC regulating a signal transduction mediated by a G-protein-coupled receptor
CC and a protein. The present sequence is that of the rat Gm1 protein which
CC is related to the human Gm1 protein of the invention.

XX

SQ Sequence 450 AA:

Query Match 88.0%; Score 2113; DB 8; Length 450;
Best Local Similarity 90.2%; Pred. No. 6.1e-175;
Matches 415; Conservative 7; Mismatches 26; Indels 12; Gaps 4;

Qy	1	MGLCYSLRPLLFGGPGDDPCAASEPPVEDAQP--APAPALAPVRAAARDTARTLLPRGGE	58
Db	1	MGLCYSLRPLLFGSSGDAPCEDSEPCAEDAQPSAAPAPAPAPIPAPA--PVGTLLRRGDG	58
Qy	59	GSPACARPKADKPKEKRQTEQLSAEEREAAKEREAVKEARKVSRGIDRMLRDQKRDLQQ	118
Db	59	RIPASARSPVE--LQNRRRQEQLRAEEREAA-----KEARKVSRGIDRMLREQKRDLQQ	110
Qy	119	THRLLLLGAGESGKSTIVKQMRILHVNGFNPEEKKQKILDIRKNVKDAIVTIVSAMSTII	178
Db	111	THRLLLLGAGESGKSTIVKQMRILHVNGFNPEEKKQKILDIRKNVKDALVTIISAMSTII	170
Qy	179	PPVPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDC	238
Db	171	PPVPLANPENQFRSDYIKSIAPITDFEYSQEFFDHVKKLWDDEGVKACFERSNEYQLIDC	230
Qy	239	AQYFLERIDSVSLVDYPTPDQDLLRCRVLTSGIFETRQVDKVNFMFDVGGQORDERERKW	298
Db	231	AQYFLERIDSVSLVDYPTPDQDLLRCRVLTSGIFETRQVDKVNFMFDVGGQORDERERKW	290
Qy	299	IQCFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDFESIWNRRWLRTISIILFLNKQ	358
Db	291	IQCFNDVTAIYVAACSSYNMVIREDNNTNRLRESLDFESIWNRRWLRTISIILFLNKQ	350
Qy	359	DMLAEKVLGKSKIETYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFRLISTATGD	418
Db	351	DMLAEKVLGKSKIETYFPEYANYTVPEDATPDAGEDPKVTRAKFFIRDLFRLISTATGD	410
Qy	419	GKHICYPHFTCAVDTENIRRVFNDCRDIIQRMHLKQYELL	458
Db	411	GKHICYPHFTCAVDTENIRRVFNDCRDIIQRMHLKOYELL	450

RESULT 5

ABB09272

ID ABB09272 standard; protein; 381 AA.

XX

AC ABB09272:

XX

DT 10-JUL-2002 (first entry)

XX

DE G protein-coupled receptor (GPCR) >q-olf SEO ID NO:18.

XX

KW Target activated nucleic acid biosensor; signalling moiety: GPCR:

KW nucleic acid sensor; detection; engineering; drug optimisation;

KW G protein-coupled receptor.

XX

OS Homo sapiens.

XX

PN WO200222882-A2.

XX

PD 21-MAR-2002.

XX

PF 13-SEP-2001; 2001WO-US028835.